

Marlene H. Dortch
Office of the Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

RE: Public Notice and ET Docket No. 10-123

June 18, 2010

Dear Madame Secretary:

We are writing to you on behalf of the Earth Scan Laboratory (ESL), within the School of the Coast and Environment, at Louisiana State University, to strongly urge you against the reallocation of the 1675-1710 MHz frequency band from meteorological to broadband use.

For 22 years, the Earth Scan Laboratory (ESL) has used the 1675-1710 MHz band to receive data via antenna in *real time* from the NOAA Polar Orbiting Environmental Satellites (POES). For 15 years, the ESL has captured GOES-East geostationary satellite data. The ESL now uses these data delivered by the GOES-13 satellite for a variety of time critical activities including hurricane tracking for the state of Louisiana and tracking the Loop Current and eddies in real-time in support of the oil and gas industry. The need for the ocean information has increased with the move of the industry to deep water. *Real time* access to all these satellite measurements has been of critical importance to the public and emergency responders. Fortuitously, these measurements have been available to track the Deepwater Horizon oil spill near the Mississippi River delta (see website at www.esl.lsu.edu).

The proposed changes involving the 1675-1710 MHz band will make it impossible for us to provide these services to state government and industry. We have developed specialized software and satellite image products from the raw data streams of both GOES and POES and this form of the data will not be provided by either NASA or NOAA. It is essential that we continue to have the freedom to access the raw data as we have for 22 years. A decentralized approach, as we currently use, is essential to a continued development of new and better products for emergency response and research.

The proposed changes to the 1675-1710 MHz band are a direct threat to the *real time* nature of direct readout, which is critical to the ESL operational activities. The latencies associated with network data access are unacceptable. Our past attempts to obtain data from NASA and NOAA in real-time yielded delays ranging from hours to days, neither of which is acceptable to the time-critical nature of satellite remote sensing. It is our belief that a central repository accessed via the internet could not deliver data in a timely manner, once it is understood how many direct readout clients presently exist and how disparate the network infrastructure is to reach them.

The Public Notice and ET Docket No. 10-123 contained a list of specific questions, which are answered individually below.

1. A description of the utility of the 1675-1710 MHz band for wireless broadband services, including any pairing, band plan, or other licensing approaches that would maximize this utility;

The LSU Earth Scan Laboratory (ESL) is capturing the following satellites/telemetries in real-time, each transmitting on the specified frequency:

GOES-13/GVAR	1685.700 MHz
NOAA-15/HRPT	1702.500 MHz
NOAA-16/HRPT	1698.000 MHz
NOAA-17/HRPT	1698.000 MHz
NOAA-18/HRPT	1707.000 MHz
NOAA-19/HRPT	1698.000 MHz

2. Identity the non-federal entities accessing the services operating in the 1675-1710 MHz band;

The Earth Scan Laboratory (<http://www.esl.su.edu/>) is a facility within the Coastal Studies Institute in the School of the Coast and Environment at Louisiana State University, located in Baton Rouge, LA.

3. A description of the purpose of such use (i.e., the equipment is used to support TV weather forecasting or for conducting university research);

Research surveillance of:

- Gulf of Mexico Loop Current and eddies in support of the oil and gas industry
- Louisiana coastal waters (river discharge, hypoxia problem, harmful algal blooms)
- Louisiana river diversions

Emergency response applications:

- Real-time hurricane monitoring for Louisiana Governor's Office of Homeland Security and Emergency Preparedness
- Oil spill surveillance and monitoring

4. Which portions of the 1675-1710 MHz band are used;

As listed in response to Q1, several frequencies in this band are used. Interference with this band jeopardizes the potential use of additional satellite systems, such as the Fengyun (FY) series of polar orbiters, at 1687.500 MHz, and MetOp, transmitting at 1701.300 MHz

5. How often the service is used (e.g., every day, scheduled times of day, duration, etc.);

The ESL captures GOES GVAR data continuously, 7x24x365. This data alone comprises

approximately 20 GB delivered every 24 hours, and is processed immediately upon arrival. In "rapid scan operations," especially while tropical storms are active, individual scans arrive as quickly as 2-5 minutes apart. Network delivery of these data, the most critical for examination of real-time events, defeats their purpose.

The six NOAA series polar orbiters each routinely deliver between two and four scenes per day. These occur in the late morning and mid-afternoon local times, with a repeat at night, twelve hours later.

6. An estimate of the current investment in wireless equipment, including when it was obtained and put into use;

The Earth Scan Laboratory infrastructure has grown, since its founding in 1988, from a single polar tracking antenna for the NOAA-series satellites, to currently utilizing three antenna systems. Two of these utilize the 1675-1710 MHz band. The total investment is well over \$1 million. The ESL supports a significant portion of its operation through the sale of data collected on its antennas. A compromise to *any* of these systems, especially the GOES GVAR data, would have a profound effect on the future viability of the laboratory.

7. A description of whether and how the information and services currently accessed can be obtained from other means; and if so, the anticipated costs and timeframes for implementing any alternatives;

The high transmission bandwidth of the GOES GVAR data stream precludes any viable network-based delivery mechanism. Typical scans over the coterminous United States occur every 15 minutes, and, for some applications, these data "stale" rapidly.

8. Confirmation that, if the information currently available from the meteorological satellite service were received at only a few receive sites and distributed via terrestrial services, this would be a functionally equivalent substitute for the direct reception of the satellite and radiosonde services;

We *CANNOT* confirm this. We believe that latencies associated with network delivery of these time-critical data would be a serious detriment to the operation of the ESL, and would especially cripple the emergency response efforts that the facility provides to our state agencies.

9. Any other information interested parties would like to identify regarding use of the meteorological satellite and radiosonde services.

In summary, we respectfully request that you reconsider the proposed changes to the use of the 1675-1710 MHz band. The Earth Scan Laboratory is Louisiana's direct broadcast satellite station and requires direct access to this band range for the REAL TIME reception of data from the GOES-East satellites as well as several NOAA POES sensors. These changes would make our emergency response activities impossible. We currently provide detailed information on hurricane/tropical storm movements, intensities and changes in REAL TIME to the Governor's Office of Homeland Security and Emergency Response (GOHSEP). We also use the GOES-East satellites to track the Loop Current and its eddies, features that have the potential of impacting

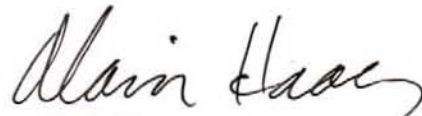
the intensity of hurricanes as they move across the Gulf of Mexico. Continuation of these activities would be impossible for several reasons. No. 1 is the loss of REAL TIME access to the satellite imagery and measurements. No. 2 is the loss of our access to the raw data from which we have developed and plan to continue to develop new products for emergency response, and for tracking ocean currents for emergency response and in support of the oil and gas industry in the northern Gulf of Mexico. No. 3 is that the proposed alternative of reliance on external IT infrastructure spanning the nation to enable hundreds of stations like ours to move data across the internet runs counter to the need for reliable REAL TIME data access. Our site alone presently archives 20 GB of data received in the 1675-1710 MHz band each day.

Thank you for attention to the case we have presented.

Sincerely yours,



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